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Basic Science  
**Clinical**  
Education & Policy  
Translational

## International Genomics of Alzheimer's Project (IGAP) Launched

In February, a collaboration to discover and map the genes that contribute to Alzheimer's disease (AD) was launched by a multinational group of researchers. The collaboration will draw on the expertise from the Alzheimer's Disease Genetics Consortium here at the Perelman School of Medicine at the University of Pennsylvania (led by Gerard Schellenberg), the European Alzheimer's Disease Initiative in France, the Genetic and Environmental Risk in Alzheimer's Disease in the United Kingdom, and the neurology subgroup of the Cohorts for Heart and Aging in Genomic Epidemiology at Boston University.

Researchers hope to find genes that contribute to AD risk and influence the progression of the disease; this may not only lead to the cause of AD but may also identify proteins and other new targets for drug development. IGAP will create a shared database of genetic data for more than 40,000 individuals, a far greater number than

if the collaborators had continued to work individually. Collaborators, who represent all of the large genetics groups in the world working on AD, expect that this larger collection of participants will accelerate gene discovery and will ultimately advance understanding of AD.

IGAP plans to first gather data from the different collaborating groups for analysis. It will then work to complete new analysis on subjects not yet in any genetics studies to increase both the overall number of people in the group and to increase the ability to detect new genes. Support for IGAP is being provided by the Alzheimer's Association and the Fondation Plan Alzheimer in France.



### Learn more...

To learn more about participating in IGAP studies, please contact Laura Cantwell via email at [lcant@mail.med.upenn.edu](mailto:lcant@mail.med.upenn.edu) and Gerard Schellenberg at [gerardsc@mail.med.upenn.edu](mailto:gerardsc@mail.med.upenn.edu).

# Research in aging at Penn



## MESSAGE FROM THE DIRECTOR



*It's always a pleasure when we can share news - whether from the lab or from the clinic. At times, the path of research may seem to be circuitous and even uncertain. 'Progress' isn't always a straight line, and 'news' may simply be ruling out a path, theory, or hypothesis. Determining what doesn't work can be as important as finding what does - and why. When we reach those moments of discovery, and the pieces begin to fall into place, we are reminded of why we started looking in the first place. Whether it's Alzheimer's, Parkinson's, stroke, osteoporosis, diabetes, or macular degeneration, we're working not to fix aging but to improve the quality - and yes the quantity - of life for millions today and millions more tomorrow.*

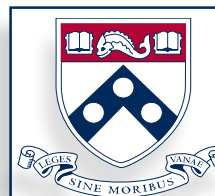
*I hope you will join us at this year's Cristofalo Lectureship in September. Dr. James Vaupel isn't a traditional Cristofalo Lecturer in that he's not a basic scientist. Vince Cristofalo valued collaborative research and interdisciplinary study highly. So it is in that spirit that we're welcoming Dr. Vaupel, whose research in demography, mortality risk, and supercentenarians loops back to aid basic scientists as we work to decipher the age-related diseases of aging and the aging process. Lastly, Virginia, Kathy, Steven, Orien, and I would like to extend our thanks and deep appreciation to Dean Arthur Rubenstein for his many years of support and deft leadership. His efforts and encouragement have made us all better researchers, better teachers, and better clinician-scientists. We offer a warm welcome to Dean J. Larry Jameson and look forward to his tenure here at Penn.*



## Research matters...

*"I think [Alzheimer's] is the defining challenge of our era and certainly of the baby boom era. The numbers are staggering. The costs to the nation are staggering. The costs to individual families are staggering. And it is - I call it a mind-blowing disease because not only does it blow the mind of the person who gets it, but it blows the mind of everybody who loves that person." - Maria Shriver on CNN's Larry King Special, "Unthinkable: The Alzheimer's Epidemic"*

The IOA and its research partners are leading the charge against aging-related brain and movement disorders, such as Alzheimer's, Parkinson's, ALS/Lou Gehrig's, and Frontotemporal degeneration. Penn Medicine's world-renowned scientists, collaborative research philosophy, and sophisticated technology give us the edge. But we need your financial support to accelerate our progress. You can make a difference by giving generously. Please contact: Irene I. Lukoff, Sr. Director of Development, at 215-573-0187 or via email at [ilukoff@upenn.edu](mailto:ilukoff@upenn.edu).



The Newsletter is published two times per year by the Institute on Aging at the University of Pennsylvania. Prior issues are available online.

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## Progress in Parkinson's: First Blood Test to Determine Cognitive Impairment Developed



The first blood-based biomarker test to predict cognitive decline in Parkinson's disease (PD) has been developed by IOA Fellow Dr. Alice Chen-Plotkin and fellow clinician-researchers at the Udall Center for Parkinson's Research at the University of Pennsylvania's Perelman School of Medicine.

Initial testing and review done at the Udall Center indicates the test could be a useful tool in selecting patients for the development of new drugs that can slow or even prevent the cognitive decline that can occur as a complication of PD.

Penn researchers sifted through a hundred different proteins found in blood plasma and found that the epidermal growth factor (EGF) provided a strong biomarker signal for cognitive impairment in PD. EGF is a protein involved in regulating cell growth, proliferation, and differentiation. The Penn Udall study indicated that PD patients with low EGF levels and normal cognition were more likely to develop serious cognitive impairments during the 21-month average follow-up period. Specifically, PD patients with EGF levels in the lowest range were 8

times more likely to develop dementia. Half of this group had dementia after 14 months of study. Results now need to be replicated and standardized in other PD patients. Data from the replication study group will be available in 2012, allowing clinician-researchers to see if this pattern holds.

The search was spurred by patients' inquiries and concerns about disease progression and whether they have the type of PD that includes dementia. While some PD patients experience cognitive impairment relatively soon after the disease manifests, other PD patients do not experience dementia until the tail end of their disease. As many as 83% of PD patients become

demented over the course of the disease; nearly 20% never have dementia.

The EGF study was supported by Penn-Pfizer Alliance (a peer-reviewed grant process sponsored by Pfizer and administered by Penn), by the National Institutes of Health, and the Marian S. Ware Alzheimer Program.



### Learn more...

**The EGF blood test is not currently available, except in select research studies aimed at replicating and potentially verifying these findings. For patients interested in participating in the Biofluid Collection Research Program at the Penn Udall Center (involving cognitive, motor, and biofluid testing - blood, spinal fluid, and DNA), please contact Jacqui Rick at 215-829-7778 or via email at jacqui.rick@uphs.upenn.edu.**

Basic Science  
**Clinical** ◀  
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 Translational

#### Get involved in research.

Find a Penn Medicine study to enroll in by visiting:

[www.pennmedicine.org/health-system/research/](http://www.pennmedicine.org/health-system/research/)







## 2011 Sylvan M. Cohen Annual Retreat with Poster Session on Aging: New Prospects for Healthy Vision Across the Lifespan

New Prospects for Healthy Vision Across the Lifespan was the focus for this year's 2011 Sylvan M. Cohen Annual Retreat with Poster Session on May 17, 2011, in Houston Hall. In partnership with the Scheie Eye Institute, this year's retreat showcased research in aspects of age-related vision disorders and prospective treatments.

Dr. John Trojanowski, Director of the IOA, opened the afternoon by welcoming attendees and remembering Sylvan M. Cohen, the founding chair of the IOA's External Advisory Board.



Dr. Joan O'Brien, Chair of the Department of Ophthalmology and Director of the Scheie Eye Institute, introduced the Sylvan M. Cohen Visiting Scholar, Dr. Paul A. Sieving, Director of National Eye Institute. Dr. Sieving spoke on "Ophthalmic Genetics and Translational Opportunities."

In his lecture, Dr. Sieving explored Ophthalmology's success in pinpointing genes related to vision and vision disorders, ranging from macular degeneration to glaucoma and beyond. Given what has been found through research and through the eyeGENE genotyping network, and the increasing interest in genetic testing, Dr. Sieving discussed the resulting translational research opportunities. He also spoke

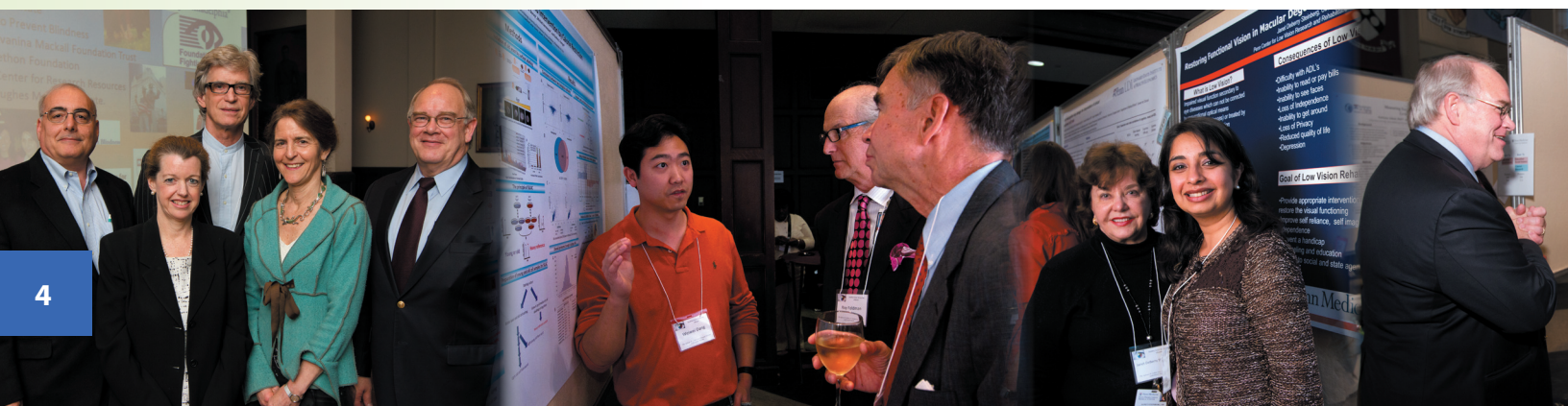
at length about the neurodegenerative retinal disease retinitis pigmentosa, his personal area of research.

Serving as Penn Presenters were Dr. Dwight Stambolian, Associate Professor of Ophthalmology and Human Genetics, and Dr. Jean Bennett, F.M. Kirby Professor of Ophthalmology. Dr. Stambolian presented "From Hope to Hype?: A Journey Through the Genetics of Age-Related Macular Degeneration Past, Present, and Future..." His presentation focused on age-related macular degeneration, a clinical phenotype associated with the disease, a genome-wide association study of the disease, and finally on connections to neurodegeneration such as Alzheimer's.

Dr. Bennett's lecture, "Seeing is Believing: A Gene Therapy Success," looked at her work in using gene therapy to reverse disease or prevent further deterioration of vision in patients with incurable inherited retinal degeneration. Dr. Sieving's and Dr. Stambolian's lectures are available on the IOA's section on Penn's iTunesU at [www.upenn.edu/cgi-bin/itunes/itunes](http://www.upenn.edu/cgi-bin/itunes/itunes) or online at <http://video.med.upenn.edu/aging>.

Following the lectures and Q&A sessions, attendees moved to the Hall of Flags for the Poster Session on Aging. Over 65 posters were on display in basic science, clinical research, and education/social sciences. Judges nominated the following poster presenters for awards:

*Photos courtesy of Mark Garvin*





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**Director**  
 John Q. Trojanowski, MD, PhD

**Associate Director**  
 Steven E. Arnold, MD

**Deputy Director**  
 Kathryn Jedrzewski, PhD

**MISSION:**

The mission of the Institute on Aging (IOA) at the University of Pennsylvania is to improve the health of older adults by increasing the quality and quantity of clinical and basic research as well as educational programs focusing on normal aging and age-related diseases at the Perelman School of Medicine at the University of Pennsylvania and across the entire Penn campus.

**Newsletter Editor**  
 Catherine Michalski

**Contributor**  
 Ebony Fenderson

**Contact us:**

Institute on Aging  
 3615 Chestnut Street  
 Philadelphia, PA 19104-2676  
 TEL: 215-898-3163 FAX: 215-573-5566  
 EMAIL: [aging@mail.med.upenn.edu](mailto:aging@mail.med.upenn.edu)

**WEB:** <http://www.med.upenn.edu/aging>

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**Winners in Basic Science**



**1<sup>st</sup> Prize:** *Dosage Thresholds and Vector Serotype Define AAV Targeting of Rod and Cone Photoreceptors in Non-Human Primates*, Luk Vandenberghe and Jean Bennett, Perelman School of Medicine.

**2<sup>nd</sup> Prize:** *Rap1 Drives Gene Expression Through Altered tRNA Methylation*, Jay Johnson, Perelman School of Medicine.



**Winners in Clinical Research**



**1<sup>st</sup> Prize:** *Fostering Fluency: Transcranial Magnetic Stimulation Improves Fluency in Subjects with Chronic Nonfluent Aphasia*, Jared Medina and Roy Hamilton, Perelman School of Medicine.

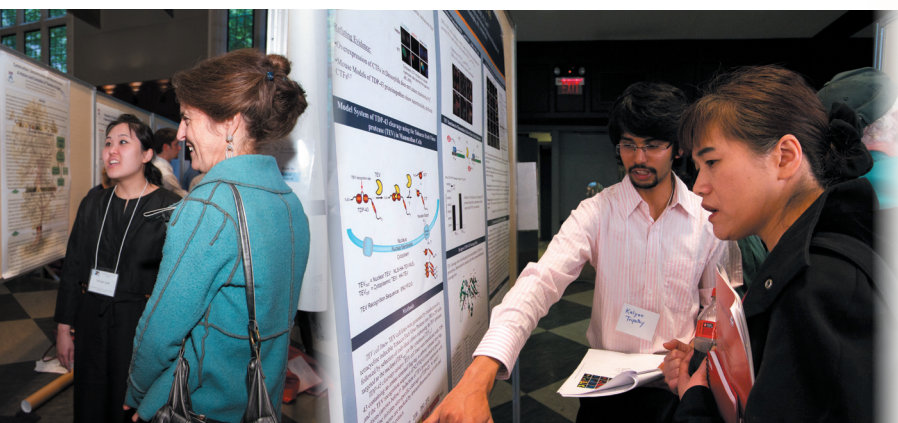
**2<sup>nd</sup> Prize:** *Evaluation of a Central Visual Function Using a Foveo-Papillary Profile in Macular/Retinal Degenerations Caused by ABCA4 (ABCR) Mutations*, Artur V. Cideciyan, Perelman School of Medicine.

**Winners in Education/Social Services**

**1<sup>st</sup> Prize:** *Measuring Social Networks and Health Among Older Adults Living in Assisted Living: A Pilot Study*, Katherine Abbott, School of Nursing



**2<sup>nd</sup> Prize:** *Promoting Brain Health to a Diverse Group of Older Adults in Philadelphia*, Julie Stutzbach, Perelman School of Medicine.





## Funding the Next Generation of Aging Research: \$200,000 in Pilot Research Grants

The IOA Pilot Research Grant Program supports new faculty entering the field of aging, assists Penn faculty in obtaining critical, preliminary data which serve as the basis for grant applications to agencies funding aging research, and stimulates multidisciplinary projects that focus the diverse

expertise at Penn toward aging research. The Pilot Research Grant Program awarded four pilot grants to investigators and research projects in the Perelman School of Medicine and the School of Arts & Sciences at Penn.

Visit us online for complete abstracts.

### tDCS to Enhance Language Recovery in Patients with Aphasia After Subacute Stroke

Roy Hamilton, MD, MS, Perelman School of Medicine

Can noninvasive electrical brain stimulation be used to enhance recovery from aphasia in the setting of subacute stroke? Aphasia, the loss of the ability to communicate, is typically associated with left hemisphere brain injury and occurs in ~20% of patients with stroke. This pilot will explore the extent to which two mechanisms of aphasia recovery - recruitment of intact left hemisphere areas and, more controversially, acquisition of language abilities by right hemisphere structures – can be enhanced in the subacute setting. Aphasic patients in an inpatient neurorehabilitation unit will receive anodal (excitatory) transcranial direct current stimulation (tDCS) to the left and right hemisphere, as well as sham tDCS. This will be paired with tests of naming and other language tasks to determine whether manipulation of either or both hemispheres is associated with either transient or persistent improvement in language. Demonstrated effects on aphasia recovery could lead to future therapeutic approaches that may generalize to other stroke-related deficits and to other neurologic conditions affecting cognition.

### Aging, Resource Networks and Mental Health in a Poor High-Risk Disease Environment

Hans-Peter Kohler, PhD, School of Arts & Sciences

Elderly individuals are not routinely screened for mental health and psychiatric disorders in resource-constrained sub-Saharan Africa (SSA). Using a dataset from rural Malawi that provides extensive socioeconomic, social capital and health information, this project will investigate how the high-HIV prevalence environment in SSA affects the mental health and well-being of older individuals. The pilot will test the hypothesis that the availability of and/or access to family resource networks, intergenerational/lateral transfers, and social support can buffer the impacts on mental health from the HIV/AIDS epidemic and its associated social and economic shocks. The pilot will bring together a new team of researchers from Penn's Population Studies Center, Population Aging Center, Annenberg School for Communication, the Center for AIDS Research (CFAR), and the Center for Mental Health Policy and Services Research, as well as the Centers for Disease Control and Prevention (CDC) and the Malawi College of Medicine. The findings of this research will provide data for the team's goals to focus the Malawi Longitudinal Study on Families and Health renewal application in 2012 explicitly on aging, HIV, and health in SSA.



# 2012 Pilot Research *Grants in Aging*



## **Role of Aging UPR in the Metabolic Effects of Sleep Loss**

Nirinjini Naidoo, PhD, Perelman School of Medicine

It has recently been recognized that sleep disruption has a major detrimental effect on glucose metabolism, and that a decrease in daily sleep has paralleled the increases in obesity and diabetes in the U.S. No molecular mechanism has been proposed that can adequately link sleep loss to glucose regulation. It is thought that wakefulness imposes an energetic stress on active cells, and that a purpose of sleep is to replenish energy stores and/or allow the repair of accumulated damage. In support of this, we have detected endoplasmic reticulum (ER) stress, which can reflect both energy depletion and molecular damage in the brains of mice subjected to sleep deprivation (SD). ER stress induces the unfolded protein response (UPR), which proceeds

through an adaptive phase and then a maladaptive phase. We hypothesize that chronic SD, in combination with other ER stressors such as aging or obesity, induces the maladaptive phase of the UPR, leading to neuronal and endocrine dysfunction, cell loss, and detrimental effects on whole-body metabolism. We will test the hypothesis that the UPR mediates metabolic consequences of SD by measuring ER stress and the UPR in young and aged mice subjected to chronic SD and by directly testing molecular chaperones as therapeutics. Understanding the aging UPR and the pathogenesis of SD has the potential to lead to new therapeutic approaches in the treatment and prevention of diabetes and potentially many other disorders.

## **Single-Cell In Situ Analysis of Aging Using Telomere Probes and Discrete Subtelomeric Probe Sets**

Harold Riethman, PhD, School of Medicine/Wistar Institute

Telomeres consist of stretches of repeat DNA at the ends of chromosomes with their associated proteins; their dysfunction contributes to organismal aging. Telomere uncapping, caused by critically short telomere DNA sequence, induces senescence of somatic cells, which can disrupt normal tissues and prevent proper replenishment of rapidly dividing cellular lineages - both leading to aging phenotypes. Telomerase, the enzyme complex that normally adds (TTAGGG)<sub>n</sub> sequences to telomeres in a highly regulated fashion in germ cells and stem cells, is limiting in rapidly proliferating cell lineages. Restoring telomerase activity in aged mice lengthens telomeres and reverses aging phenotypes. In addition to the inherited component of telomere

length regulation and the reduction of telomere length with age in humans, telomere attrition is accelerated by chronic exposures to a variety of environmental factors associated with elevated levels of inflammation and/or oxidative stress.

We will develop a comprehensive set of discrete subtelomeric probes for mouse and human chromosomes and apply them, in combination with probes for the universal (TTAGGG)<sub>n</sub> sequence present at both mouse and human telomeres, to in situ analysis of aging in cells and tissues from mice and humans. These pilot studies will create preliminary data for collaborative aging grants and will establish a valuable local resource for many other Penn labs studying telomere length regulation in aging.

## Dr. Johnson: Details on the Complex Structure at the Ends of Chromosomes

IOA Fellow Dr. Brad Johnson and colleagues at Penn are looking closely at telomeres, the ends of chromosomes, which change in important ways during aging. Using yeast, recent work showed that telomeres are protected by caps of specialized proteins and stacks of DNA called G-quadruplexes or G4 DNA. The caps act like a knot, preventing the string or chromosome from unraveling. It is believed that the loss of telomere capping may contribute to some diseases that become more common with natural aging. The Penn researchers previously found roles for G4 DNA in rare forms of premature human aging, and are now exploring possible roles for G4 DNA in normal human aging.

## Dr. Lee: Another Avenue for Detecting Alzheimer's?

IOA Fellow Dr. Virginia Lee and colleagues at the Center for Neurodegenerative Disease Research (CNDR) have associated a chemical process called acetylation with tau, one of the primary disease proteins associated with a number of neurodegenerative diseases. They've demonstrated that tau acetylation led to a loss of one of tau's major functions - promoting microtubule assembly (microtubules being the backbone of the nerve-cell communication system) - in addition to creating toxic pathological tau aggregation. Acetylation is most likely another chemical modification implicated in neurodegenerative disorders that can be explored as a potential way to detect and fight brain diseases. Researchers will next focus on investigating basic mechanisms that underlie this pathological acetylation of tau and its role in Alzheimer's and related diseases.



## Dr. Epperson: ADHD Drug Helps Menopausal Women

In a small study conducted by IOA Fellow Dr. C. Neill Epperson at Penn and colleagues at Yale University, researchers found that a drug, typically given to children and adults with ADHD, improved attention and concentration in menopausal women. As a decline in attention, organization, and short-term memory commonly affects women at menopause, this study provides the first potential treatment for menopause-related cognition deficits, which may be the result of declining estrogen input to the prefrontal cortex region of the brain. Additional studies are underway at the Penn Center for Women's Behavioral Wellness. For more information, call 215-573-8884, email [pcwbw@med.upenn.edu](mailto:pcwbw@med.upenn.edu), or visit [www.med.upenn.edu/womenswellness/](http://www.med.upenn.edu/womenswellness/).

## New Paths for Drug Discovery in ALS-Lou Gehrig's Disease

Two studies, one from the Perelman School of Medicine at the University of Pennsylvania, looked at FUS biology in yeast. FUS has been linked to ALS or Lou Gehrig's disease. The yeast studies found that defects in RNA biology may explain how FUS contributes to ALS. In ALS, proteins accumulate to form insoluble clumps in the brain and spinal cord. In some cases of ALS, the protein that clumps is FUS; in other cases, it's TDP-43. While the two proteins have similarities, it is not clear if both contribute to ALS in similar or different ways. Work in the labs of IOA Fellows Dr. Aaron Gitler and Dr. James Shorter have shown that there are differences in the way in which the two clumped in yeast cells and in pure protein assays, that biochemical features that promote clumping also differ, and that there is a lack of overlap in genes that modified FUS toxicity versus TDP-43 toxicity in yeast cells. This points the way to new therapeutics for some ALS cases.



# { Research and News in *Aging*



## Dr. Karlawish: Mobile Polling Removes Barriers for Seniors

For seniors in long-term care (LTC) facilities, the act of voting can be fraught with impediments. IOA Fellow Dr. Jason Karlawish conducted a study in Vermont of mobile polling, a process where election officials register voters onsite, bring voting ballots to LTC residents, and provide voting assistance as needed. The study, which appeared in the *Election Law Journal*, found that LTC residents, staff, and election officials all agreed that mobile polling is better than current voting methods and that it not only guaranteed residents their right to vote but also brought dignity to the residents. Staffers welcomed the option as traditional methods made them feel uncomfortable given concerns for assisting voters ‘too much.’ Currently mobile polling is standard in several countries but has not been widely adopted in the U.S. The study was conducted with the support of the Secretary of State of Vermont, Deborah Markowitz, during the 2008 general election and had 24 facilities participating.

## Dr. Casarett: Rethinking Medicare Hospice Eligibility Criteria

Medicare hospice eligibility criteria expanded this year as part of a three-year Concurrent Care Demonstration Project. IOA Fellow Dr. David Casarett advocated in a recent *JAMA* article that the project should not just focus on evaluating costs and the cost benefit of providing palliative care and aggressive treatments concurrently but should also examine the impact of the new eligibility criteria on hospice access, quality, and survival improvements. The ultimate goal should be to see if the change in criteria allows patients to receive the right level of care at the right time. Current Medicare hospice eligibility criteria require patients to forego aggressive treatment and only offers palliative care in the last six months of life. Dr. Casarett would also like the Demonstration Project to examine whether patients enroll sooner and stay longer in hospice care under the expanded criteria.

## RESEARCH STUDY IN AGING

### Healthy older adults needed. Are you between the ages of 45-75?

The University of Pennsylvania is conducting a research study to assess sensory, cognitive, and neurological function in healthy older adults. To be a part of this study, you must:

- Be between 45-75 years of age
- Be available to participate in a study requiring 8 full days of testing broken up into 2 sets of 4-day sessions separated by 6 weeks
- Not have any major illnesses

You will be compensated for your time and travel. For details, call Geraldine Fischer at (215) 662-6580 or email [geraldine.fischer@uphs.upenn.edu](mailto:geraldine.fischer@uphs.upenn.edu). When contacting us please reference the “Sensory Dysfunction in Early Parkinson’s Disease” study.

## Healthy Aging - What *You* Can Do...



### Vitamin D and Health in Older Adults

Stella L. Volpe, PhD, RD, LDN, FACSM

Vitamin D is a fat-soluble vitamin best known for maintaining calcium levels in the blood. More individuals are being diagnosed with hypovitaminosis D or low levels of vitamin D in the blood. A study in the *Journal of the American Geriatrics Society* evaluated the effects of vitamin D supplementation on muscle strength and mobility in older women with hypovitaminosis D. In this randomized, double-blind, placebo-controlled study, 302 community-dwelling, ambulatory women, ages 70 to 90, participated. Participants received either 1000 International Units (IU)/day of vitamin D or an identical-looking placebo. Both groups were given 1000 mg/day of calcium citrate. Individuals supplemented with vitamin D significantly increased serum 25-hydroxyvitamin D (25-OH-D) levels, with no change in the placebo group. The vitamin D group significantly increased muscle strength (hip extensors and hip adductors) and had greater mobility (assessed by the Timed Up and Go Test) compared to the placebo group. Based on these results, supplementation with vitamin D in individuals with low serum 25-OH-D concentrations could improve muscular and functional parameters, possibly leading to lower risk of falls.

## Awards and Honors: News from IOA Fellows and Associate Fellows



### Perelman School of Medicine

**Dr. Arthur L. Caplan**, Emmanuel and Robert Hart Director of the Center for Bioethics and Sydney D. Caplan Professor of Bioethics, received the Patricia Price Browne Prize in Biomedical Ethics from the University of Oklahoma College of Medicine.

**Dr. Jason Karlawish** is now Professor of Medicine and Medical Ethics.

**Dr. Amita Sehgal**, Professor and Vice Chair in the Department of Neuroscience; Co-Director of the Comprehensive Neuroscience Center and a Howard Hughes Medical Institute Investigator, was elected to the prestigious American Academy of Arts and Sciences.

**Dr. H. Lee Sweeney**, William Maul Measey Professor and Chairman of Physiology, received the Stanley N. Cohen Biomedical Research Award, in recognition of achievement in the field of biomedical research.

**Dr. Kathryn Schmitz**, Associate Professor of Biostatistics & Epidemiology and Family Medicine & Community Health, was awarded the Dean's Award for Excellence in Basic Science Teaching in recognition of teaching excellence and commitment to medical education in the basic sciences. Dr. Schmitz is also Director of Education for the Center for Public Health Initiatives.

**Dr. Kevin G. Volpp**, Associate Professor of Medicine; Associate Professor of Health Care Management; Director of the Penn-CMU Center on Behavioral Economics and Health, and Director of the Center for Health Incentives at the Leonard Davis Institute, was presented with the Samuel Martin Health Evaluation Sciences Research Award, given to a Perelman School of Medicine faculty for a body of work, with emphasis on health services research, performed predominantly at Penn in the last five years.

**Dr. Virginia W. Chang**, Assistant Professor of Medicine, was given the Marjorie A. Bowman New Investigator Research Award for achievements in the health evaluation sciences, for her work investigating the social determinants and consequences of obesity.

### Penn Nursing

**Dr. Lois Evans**, van Ameringen Professor in Nursing Excellence, received the 2011 Claire M. Fagin Distinguished Researcher Award. The award highlights Dr. Evans' many research accomplishments from her groundbreaking work on the 'sundowning'



# Research and News in *Aging*



phenomena in Alzheimer's patients and her joint work in the use of restraints on the elderly to leadership in the LIFE program and her current research in geropsychiatric nursing.

**Dr. Mary Naylor**, Marian S. Ware Professor in Gerontology and Director of NewCourtland Center for Transitions and Health, was awarded the GE Healthcare - American Association of Critical Care Nurses (AACN) Pioneering Spirit Award. The award recognizes significant contributions that influence acute and critical care nursing.

**Dr. Kathy Richards**, Professor of Health Promotion in Gerontology-Clinician Educator, and Director of the John A. Hartford Center of Geriatric Nursing Excellence, will be the new Associate Dean for Research at George Mason University. As of July 1, 2011, **Dr. Eileen Sullivan-Marx** will be the Director of the Hartford Center for Geriatric Nursing Excellence (HCGNE) at the School of Nursing. **Dr. Mary Ersek** and **Dr. Pamela Cacchione** will continue their respective roles as Associate Director and Emerging Leader for the HCGNE.

**Dr. Ersek**, Associate Professor of Nursing, has been appointed Director of the VA PROMISE Center. The Performance Reporting and Outcomes Measurement to Improve the Standard of care at End-

of-life (PROMISE) Center is an integral part of the VA's nationwide Comprehensive End-of-Life Care Initiative. She also received the Dean's Award for Exemplary Teaching for 'her passion and knowledge and for being an expert and innovative teacher who has made significant contributions to the curriculum as the Coordinator of the Palliative Care Minor and Chair of the Master's Curriculum Committee.'

**Dr. Sullivan-Marx**, Shearer Term Associate Professor for Healthy Community Practices and Associate Dean for Practice and Community Affairs, was awarded the Dean's Award for Exemplary Professional Practice for 'sustained excellence and leadership in professional practice and integration of practice to scholarship and teaching across many disciplines.'

**Dr. Christine Bradway**, Assistant Professor of Gerontological Nursing - Clinician Educator, will be inducted as a Fellow in the American Academy of Nursing this October. Dr. Bradway also provides faculty leadership for the Adult Health and Gerontology Nurse Practitioner Programs at Penn Nursing.

**Dr. Valerie Cotter**, an Advanced Senior Lecturer, was named a Hartford Institute for Geriatric Nursing Research Scholar and will attend the summer institute.

## ALZHEIMER'S AGITATION STUDY

### Citalopram for Agitation in Alzheimer's Disease (CITAD)

Do you care for a person with Alzheimer's disease who gets easily upset? CITAD is a 9-week treatment study to see if a medication, citalopram (Celexa), is helpful in the treatment of agitation in Alzheimer's disease. Participant receives study medication. All participants will receive a medical evaluation and study procedures at no charge, and caregivers will receive education and support during the study. If you have any questions, please contact Suzanne DiFilippo, RN, CCRC, at 215-349-8228 or Jamie Czerniakowski, Research Coordinator, at 215-349-8227.

## Spotlight on an IOA Fellow: A Profile of Dr. George Drach

Dr. George Drach earned his BA at the University of Arizona and his MD from Western Reserve University. After a Residency in Surgery at University Hospitals in Cleveland and two years of naval service, he completed a Research Fellowship and

Residency in Urology at Wake Forest University.

He returned to Arizona as Founding Chief of Urology in 1970 and served on the Surgery faculty for 25 years; he was also an Attending Physician at University Medical Center and a Consultant in Urology at the Tucson VA Hospital.

He served on a number

of strategic administrative committees. He retired from the University of Arizona in 1995 as Professor Emeritus of Surgery. After a Visiting Professorship in Urology at the University of Texas Southwestern Medical Center, Dr. Drach joined the Perelman School of Medicine at Penn as Professor of Urology in Surgery in 1998, also serving as Attending Physician at the Hospital of the University of Pennsylvania and at the Philadelphia VA Medical Center. He currently is Professor Emeritus of Urology in Surgery and the past Director of Outpatient Education for Urology Residency at Perelman School of Medicine and a Consulting Physician at the Philadelphia VA Medical Center.

Dr. Drach has been honored with many accolades, including the Research Innovator Award and a Certificate of Lifetime Achievement from the American Urological Association (AUA); the Centennial Achievement Award from the University of Arizona; a Lifetime Achievement Award from the Department of Surgery at the University of Arizona, and Outstanding Alumnus from Wake Forest University.

With a long list of participation in various profes-

sional and scientific societies, Dr. Drach is currently Chairman of the American Geriatric Society's (AGS) Committee for Geriatric Surgical Competencies and Chairman of the AUA's Committee for Geriatric Urology. He participates in the American College of Surgeons' Taskforce on Aging and serves on the American Medical Association's committee to improve the education of all physicians in concepts of aging. The latter has led to the e-book publication of *Geriatric Care by Design*, which Dr. Drach assisted in editing. He has also co-edited a new textbook to be published *The Primer on Geriatric Urology*. Dr. Drach has used his 17 recent Visiting Professorships to discuss Geriatric Urology and spread the word to residents, clinicians, and medical professionals.

**Q:** Can you tell us more about your project to generate points of competency in geriatric care for the graduating surgical resident?

**A:** The overall project is titled "Geriatrics for Specialists Initiative" or GSI. It began with an interest group, which later became a full Section of the AGS, with which I have been involved since 1977. The group's purpose was to increase the amount of geriatric education presented to residents in select surgical disciplines. With not enough geriatricians to care for the rising numbers of aging Americans, surgeons should and would benefit from learning some geriatric principles. The group has used several strategies to advance geriatric education - from the Geriatrics for Specialty Residents (GSR) program to Jahnigen Fellowships for geriatric research studies to lobbying surgical boards to require geriatric knowledge for education and certification (the latter having success with only five out of the ten specialty boards).

About three years ago, I went directly to the American Board of Medical Specialties, the Accreditation Council on Graduate Medical Education, and ten related specialty boards to promote the GSI program. Using a recom-





# Basic Science Clinical Education & Policy Translational

mendation from the Institute of Medicine's "Retooling for an Aging America: Building the Health Care Workforce," I worked to generate a multi-specialty meeting in May 2009 toward implementing the recommendation that "...all licensure, certification, and maintenance of certification for health care professionals should include demonstration of competence in the care of older adults as a criterion." A White Paper resulted and is in press at the *Journal of the American Geriatrics Society*; a subsequent meeting in December 2009 defined what a large surgical group felt comprised the minimum competencies in geriatrics that a graduating surgical resident should demonstrate. A resulting manuscript, "Geriatric Competencies for Surgical Specialists," is currently under revision for publication.

As a result of the GSR program, many local specialty surgical faculty developed a curriculum to apply to their own residency program. There needed to be an adaptation of the various curricula into a 'tool kit' available to help other faculties develop their individual curriculum for their respective programs. In June, I participated in a meeting to bring together the ideas and curricula used by all the GSR grantees to implement their programs, compile them, and make them available online to others - and possibly in print or as video or slide presentations. Also I, along with two others, generated our curriculum for Geriatric Urology as a component of the overall Urology Educational Curriculum, which was endorsed and announced by the AUA last year and is the first organized curriculum in geriatrics for our AUA.

Q: What are some of the challenges in training new clinicians in aging and geriatrics?

A: Perhaps the greatest challenge now is the fight for time in any residency program, given the restrictions of hours per week available. All segments of a residency fight for their part of the time so we must fight for every hour in

which we can teach geriatrics. As an example, in our Penn Urology Residency program, the segment that I teach in Geriatric Urology takes about 100 hours out of the total residency hours available in 5 years. Nevertheless, it is necessary to urge yearly to continue to include this segment. Another challenge has to do with attitudes toward the elderly patient. Urology is heavily involved in the care of the elderly - with nearly 50% of average office activity and over 60% of procedural/surgical activity for patients over 65 years of age. Yet many residents and urologists seem to feel that they can absorb geriatric knowledge by osmosis rather than by organized education. We need to change this attitude.

Q: Do you have any advice for the next generation of clinicians in aging and age-related diseases?

A: Never give up. We must keep pushing and agitating to improve geriatric education for all physicians and, in my opinion, for all surgeons of all specialties. The AAMC, the American Boards of Internal Medicine, Family Medicine, and Emergency Medicine now have requirements for competencies in the care of the elderly. No other boards do so, yet. Enormous gaps exist in our knowledge of the physiology and psychology of aging. This offers a huge opportunity for individuals with an interest in investigating these gaps. And, with the advent of expanded Medicare requirements, an expanding field of research in quality assurance and outcome evaluation for the elderly presents itself to our young investigators. Geriatricians earn less than most physicians but show, on surveys, the highest degree of satisfaction of all medical disciplines. To me this is one of the foundations of medicine: service to a specific community without overwhelming concern for income. Excellent, compassionate surgical faculty with appropriate demeanor and a good knowledge of geriatrics can teach these points and generate a more content resident and ultimate practitioner.



## News from the IOA External Advisory Board: Welcoming New Members

The Institute on Aging External Advisory Board is comprised of dynamic and dedicated individuals from all walks of life who share a common goal – to improve the quality of life for older adults. Meeting several times a year, this body of informed, hands-on volunteer advisers is instrumental in forwarding

the mission of the Institute on Aging. Recently the Board added new members, each bringing a unique perspective on aging research and medicine.

The Institute on Aging is pleased to welcome all new members. Among them, David Hoefner and Jeffrey L. Keefer are highlighted below.

### David Hoefner



David Hoefner is currently the caregiver for his wife of 41 years who suffers from Frontotemporal Dementia. Prior to 2002, Mr. Hoefner's business career was comprised of numerous and varied executive roles applying his broad-based expertise in Information Technology, process engineering, risk management, organizational design, M&A, operations, and turnarounds.

Mr. Hoefner served as Executive Consultant to CAO & Board of Directors of the Ogden Corporation/Covanta Energy and was recruited as a strategic advisor to ensure business continuity. He served as Transition Executive, conducting comprehensive assessments of the company's aviation and entertainment divisions to position them for profitable sale and consolidating technology assets and isolated major systems creating independent operating units. Mr. Hoefner served as Program Manager coordinating a successful 11th-hour turnaround of the company's Information Technology strategy.

Before his involvement with Covanta, Mr. Hoefner led complex large-scale change initiatives at PECO Energy/Exelon, directing multiple strategies that brought high-profile plants into regulatory compliance. While a Strategy Manager, he led a 200-member implementation team, executing IT improvement and quality strategies. He has designed, deployed, and supported a portfolio of 34 major systems in 24/7 operating environments, overseen data admin-

istration, telecommunications, security, and disaster recovery functions, and created strategic plans encompassing capacity planning, infrastructure analysis, data storage projections, and client support.

Mr. Hoefner received his MBA and BSME (emphasis on MIT-based systems engineering concept) from Widener University.

### Jeffrey L. Keefer



Jeffrey L. Keefer is a business strategy consultant. He is retired from the DuPont Company where he last served as an Executive Vice President responsible for corporate strategy development, the Performance Coatings Business, Information Technology, and overall cost and working capital productivity programs. From June 2006-2009, he held the positions of Executive Vice President and Chief Financial Officer of DuPont.

Mr. Keefer joined DuPont in 1976 as a Financial Analyst for the Chemicals and Pigments business after receiving a Masters of Management degree from Northwestern's Kellogg Business School. After several years of supervising the business' accounting function, he moved to field sales, then customer service, and was named TiO<sub>2</sub> Market Manager of the paper industry, one of the three major markets served by Dupont Titanium Technologies. He assumed sales management responsibility there in 1989. Four years later, he was appointed Managing Director of the Asia Pacific region for DuPont Titanium Tech-



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## *From the Chair...*

A promising lead on treating frailty in older women. Insight into aspects that seem to link neurodegenerative diseases. Analyzing nursing home pay-for-performance in Medicaid programs. Integrating depression services into Type 2 diabetes management. These diverse avenues of research - and many more - were made possible with the initial and ever-important 'start-up funding' provided by a Pilot Research Grant from the Institute on Aging.

For five years, the IOA's research efforts in aging were enhanced by the addition of a singular \$1 million grant from The Bingham Trust, which funded an additional four grants per year. The impact the Bingham Trust gift had is immeasurable as there has never been any shortage of intriguing, scientifically worthy proposals submitted for funding. In speaking to the value of the science funded by the IOA, 47% of Pilot Research Grant awardees (from the years before and during The Bingham Trust grant) went on to receive additional funding from Federal or other agencies or foundations to continue the initial course of research. To the layperson, 47% seems low. In science, it is an astounding and remarkable percentage.

Funding matters.

We on the IOA's External Advisory Board know this all too well. We all come to the board motivated by a personal interest in aging. Many of us have been touched by the challenges of aging - that of a parent, a spouse, a sibling, other family members, or dear friends. As both of the new IOA External Advisory Board members profiled on these pages can attest, research has not only the power of finding answers; it is a source of hope as the answers are sought. With his wife, Anne, Jeff Keefer has established the Jeff & Anne Keefer Fund for Parkinson's Research here at the University of Pennsylvania. Dave Hoefner advocates passionately for those with frontotemporal dementia and supports neurodegenerative disease research at Penn through his CureDementia Fund.

Inspired by the spirit and curiosity of Ben Franklin, we on the External Advisory Board have taken it up as our focus to actively pursue raising \$1 million to fund 8 Pilot Research Grants each year for five years. What will we learn? What new leads for treatment may be uncovered? We won't know unless we keep looking.

*Continued from facing page*

nologies and played a major role in the start-up of DuPont Titanium Technologies's new plant at Kuan Yin, Taiwan. He was named Director of New Ventures in the U.S. in 1997. In February, 1999, he became Vice President and General Manager of DuPont Titanium Technologies and moved to Group Vice President of DuPont Performance Materials in January, 2004.

Mr. Keefer serves on the Advisory Board of CVC Capital Partners, the Patients' Council of the Michael J. Fox Foundation, the Board of Directors for Junior Achievement of Delaware, the Board of the Parkinson's Council of Philadelphia, and the Board for Delaware Guidance Services; he is a past board member of the National Paint & Coatings Association and the Paper Industry Management Association. He holds a Bachelor's degree in Economics from the College of Wooster.



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2011 CRISTOFALO LECTURER:



**James W. Vaupel, PhD**

Dr. Vaupel, is an internationally renowned scientist in aging research, biodemography, and formal demography; he has been instrumental in the emerging field of research into supercentenarians as a population group and pioneered research on mortality risks and on the deceleration of death rates at the highest ages. Dr. Vaupel is the Founding Director of the Max Planck Institute for Demographic Research; head of its Laboratory of Survival and Longevity and Laboratory of Evolutionary Biodemography, and Director of the Max Planck International Research Network on Aging.

CELEBRATING THE SPIRIT AND CONTINUING THE RESEARCH OF OUR COLLEAGUE, MENTOR, AND FRIEND

September 12, 2011

3:30pm - 5:30pm

Reception to follow lecture

BRB 2/3 Auditorium

421 Curie Boulevard

Registration is requested. RSVP via email to [aging@mail.med.upenn.edu](mailto:aging@mail.med.upenn.edu) or by calling 215-898-3163.